



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,730	10/18/2007	Kiyoshi Uchikawa	129041	3983
25944	7590	05/26/2010		
OLIFF & BERRIDGE, PLC				
P.O. BOX 320850				
ALEXANDRIA, VA 22320-4850				
EXAMINER				
PERSAUD, DEORAM				
ART UNIT		PAPER NUMBER		
2882				
NOTIFICATION DATE		DELIVERY MODE		
05/26/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com

jarnstrong@oliff.com

Office Action Summary

Application No.

10/588,730

Applicant(s)

UCHIKAWA, KIYOSHI

Examiner

DEORAM PERSAUD

Art Unit

2882

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1, 2, 8-13 and 19-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-7 and 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-510/510a)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 08/24/2006, 09/25/2006, 10/12/2007 & 07/17/2009

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of species II, claims 3-7 and 14-18 in the reply filed on 05/07/2010 is acknowledged.

Applicant has argued that the examiner has not established undue burden in examining all of the disclosed species.

In response, it should be noted that each disclosed species has a different methodology for adjusting for exposure conditions which is separately claimed from the other species. Thus, each group would require separate searches employing distinct search queries directed to features such as exposure through a space waveguide mechanism as disclosed in species A or exposure through a polarization state control mechanism as disclosed in species B.

Accordingly, the additional search and examination of the separate and distinct features of all the species would indeed place an undue burden upon the examiner.

The requirement is still deemed proper and is therefore made FINAL.

Claims 3-7 and 14-18 read on the elected invention and will be examined.

2. Claims 1, 2, 8-13 and 19-30 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on May 7, 2010.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 3, 4, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori et al. (European Patent Application Publication EP 0 823 662 A2).

Regarding claims 3 and 14, Mori et al. discloses an exposure method (page 5 line 5-13)/exposure apparatus (Fig. 2A), comprising, illuminating a first object (4) with an exposure beam (IL1), and exposing a second object (7) with the exposure beam through the first object (4) and a projection optical system (6), wherein at least a part of one of the first object (4) and the projection optical system (6) is irradiated with a light beam (IL2A) having a wavelength range ($\lambda 2$) different from that of the exposure beam

(λ1) and being in a predetermined polarization state (S) through a polarization state control mechanism (43), to correct an imaging characteristic of the projection optical system (page 9 lines 8-29).

6. Regarding claims 4 and 15, Mori et al. discloses an exposure method/exposure apparatus as recited in claims 3 and 14, wherein the polarization state control mechanism includes a phase plate (43, page 9 lines 8-29 teaches 43 to be a $\frac{1}{4}$ wavelength plate).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5-7 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Schuster et al. (US Patent Application Publication US 2001/0019403 A1).

Regarding claims 5 and 16, Mori et al. discloses, an exposure method (page 5 line 5-13)/exposure apparatus (Fig. 2A), comprising, illuminating a first object (4) with an

exposure beam (IL1), and exposing a second object (7) with the exposure beam through the first object (4) and a projection optical system (6), wherein at least a part of one of the first object (4) and the projection optical system (6) is irradiated with a light beam (IL2A) having a wavelength range (λ_2) different from that of the exposure beam (λ_1) and being in a predetermined polarization state (S) through a polarization state control mechanism (43), to correct an imaging characteristic of the projection optical system (page 9 lines 8-29).

Mori et al. does not teach illumination through an optical guide.

However, Schuster et al. teaches an optical arrangement (Fig. 1) for correcting imaging characteristic of the projection optical system using polarizing optical components associated with optical fibers (11, see paragraph [0038]).

Therefore, it would have been obvious to one of ordinary skill in the art to use the optical fibers of Schuster et al. in the system of Mori et al. to create a compensating light supply device because such a system is not effected by a homogenization of the temperature distribution in the optical system via the absorption of the compensating light (paragraph [0006] of Schuster et al.).

9. Regarding claims 6 and 17, Mori et al. in view of Schuster et al. discloses, an exposure method/exposure apparatus as recited in claims 5 and 16, wherein the optical guide (11) is a hollow fiber (paragraph [0037] teaches optical fibers).

10. Regarding claims 7 and 18, Mori et al. in view of Schuster et al. discloses, an exposure method/exposure apparatus as recited in claims 5 and 16, wherein the polarization state control mechanism is a polarization plate (43, page 9 lines 8-29 teaches 43 to be a $\frac{1}{4}$ wavelength plate).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEORAM PERSAUD whose telephone number is (571)270-5476. The examiner can normally be reached on M-F (7:30-5) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. P./
Examiner, Art Unit 2882